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| APPLICATION NO.   | FILING DATE     | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO. |  |
|---|-----------------|----------------------|-------------------------|------------------|--|
| 09/472,989  | 12/28/1999      | SHUNSUKE INOUE       | 684.2946                | 9449             |  |
| 5514  | 7590 04/23/2003 |                      |                         |                  |  |
| FITZPATRICK CELLA HARPER & SCINTO<br>30 ROCKEFELLER PLAZA<br>NEW YORK, NY 10112 |                 |                      | EXAM                    | EXAMINER         |  |
|   |                 |                      | ABDULSELAM, ABBAS I     |                  |  |
|   |                 |                      | ART UNIT                | PAPER NUMBER     |  |
|   |                 |                      | 2674                    |                  |  |
|   |                 |                      | DATE MAILED: 04/23/2003 |                  |  |

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

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| Application No.   Applicanties   Application No.   Op472,989   INOUE ET AL.   Double   Art Unit   Z874   Art Unit   Z874 |   |  | Application No.         | Applicant/a) |              |  |  |  |  |
|--|---|--|-------------------------|--------------|--------------|--|--|--|--|
| Examiner   | ۰ مسون  |  |                         |              | ~            |  |  |  |  |
| Abbas   Abdulselam   2674  Period for Reply  A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  If the MAILING DATE OF THIS COMMUNICATION.  If the period for reply specified above is less than briliny (30) days, a reply within the statisticy minimum of thinky (30) days will be considered frinally.  If the period for reply specified above is less than briliny (30) days, a reply within the statisticy minimum of thinky (30) days will be considered frinally.  If the period for reply specified above is less than briliny (30) days, a reply within the statisticy minimum of thinky (30) days will be considered frinally.  If the period for reply specified above is less than the communication.  If the period for reply specified above is less than the communication.  If the period for reply specified above, the maintima date of this communication and the statistic period will apply days will be considered frinally.  If the period for reply specified above, the maintima date of this communication, even if timely filled, may reduce any seamed pattern and equitation.  A price of this action is FINAL.  2b) This action is non-final.  3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) Claim(s) 1 and 3-7 is/are pending in the application.  4a) Of the above claim(s) is a state allowed.  Claim(s) is/are allowed.  Claim(s) is/are allowed.  Claim(s) is/are objected to by the Examiner.  Application Papers  9) The specification is objected to by the Examiner.  Application Papers  9) The proposed drawing correction filed on is: a) approved by disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  10) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) Acknowledgment is made of a claim for foreign priori |   | Office Action Summers  | 09/472,989              | INOUE ET AL. | <u>(</u> (V) |  |  |  |  |
| The MAILING DATE of this communication appears on the cover sheet with the correspondence address — Period for Reply  A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ② MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  Extensions of time may be available under the previous of 3 CCR 1.18(a). In or evert, however, may a reply be limely filed  Extensions of time may be available under the previous of 3 CCR 1.18(a). In or evert, however, may a reply be limely filed  If the period for reply specified above is less than thirty (30) days, as reply with the statisticy previded allege and will applies 3(b) (MONTH'S time male mailed gited of this communication.  Filed period for reply is specified above the mailed period will applies 3(b) (MONTH'S time male mailed gited of this communication.  Filed period for reply specified above the mailed period will reply in the statistic previous and the specification to the communication.  Filed period for reply is specified above the mailed period will reply in the statistic previous and the specification to the communication.  Filed period for the specification is filed to a 20 February 2003.  Status  1) Separation is FinAL.  2b This action is FinAL.  2b This action is format.  2b This action is coordinate with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4p Claim(s)   |   | Office Action Summary  | Examiner                | Art Unit     |              |  |  |  |  |
| A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filled  Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filled  Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filled  Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filled  Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filled  ### 15 Open for reply as specified above, the maximum solution period will apply and valil apply and va  |   |  |                         |              |              |  |  |  |  |
| A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  Extracions of time may be available under the provisions of 3° CFR 1.136(a). In no event, however, may a reply be timely filled  If the period for reply specified above is less than thirty (30) days, a reply within the studency minimum of thirty (30) days will be considered timely.  If the period for reply specified above is less than thirty (30) days, a reply within the studency minimum of thirty (30) days will be considered timely.  If NO period for reply specified above is less than thirty (30) days, a reply within the studency minimum of thirty (30) days will be considered timely.  If the period for reply specified above is less than thirty (30) days, a reply within the studency minimum of thirty (30) days will be considered timely.  If the period for reply specified above is less than thirty (30) days will be considered timely.  If the period for reply specified above is less than thirty (30) days a reply within the studency minimum of thirty (30) days will be considered timely.  If the period for reply specified above is less than thirty (30) days will be considered timely.  If the period for reply specified above is less than thirty (30) days will be considered timely.  If the period for reply specified or septiments of the minimum of the period of |   |  |                         |              |              |  |  |  |  |
| 1) Responsive to communication(s) filed on 20 February 2003.  2a) This action is FINAL. 2b) This action is non-final.  3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) Claim(s) 1 and 3-7 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5) Claim(s) is/are allowed.  6) Claim(s) is/are rejected.  7) Claim(s) is/are objected to.  8) Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) = accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) opproved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some One of:  1 Certified copies of the priority documents have been received.  2 Certified copies of the priority documents have been received in Application No  3 Copies of the certified copies of the priority documents have been received in Application No  3 Copies of the certified copies of the priority documents have been received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  Attachment(e) The foreign language provisional ap  | A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).  - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). |  |                         |              |              |  |  |  |  |
| 2a)  This action is FINAL. 2b)  This action is non-final.  3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4)  Claim(s) 1 and 3-7 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5)  Claim(s) is/are allowed.  6)  Claim(s) is/are objected to.  8)  Claim(s) are subject to restriction and/or election requirement.  Application Papers  9)  The specification is objected to by the Examiner.  10)  The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11)  The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12)  The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a)  All b)  Some * c)  None of:  1.  Certified copies of the priority documents have been received in Application No  3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  *See the attached detailed Office action for a list of the certified copies not received.  14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a)  The translation of the foreign language provisional application has been received.  15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.   |   | Decreasive to communication(s) filed on 30 E                                       | abrupa 2002             |              |              |  |  |  |  |
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| closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4)   | ·   | ,  |                         |              | manita in    |  |  |  |  |
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| 4a) Of the above claim(s) is/are withdrawn from consideration.  5) □ Claim(s) is/are allowed.  6) □ Claim(s) is/are rejected.  7) □ Claim(s) is/are objected to.  8) □ Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) □ The specification is objected to by the Examiner.  10) □ The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) □ The proposed drawing correction filed on is: a) □ approved b) □ disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) □ The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) □ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) □ All b) □ Some * c) □ None of:  1. □ Certified copies of the priority documents have been received.  2. □ Certified copies of the priority documents have been received in Application No  3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 119(e) (to a provisional application).  a) □ The translation of the foreign language provisional application has been received.  15) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  Notice of References Cited (PTO-892)  Notice of Informal Patent Application (PTO-152)  | •   |  |                         |              |              |  |  |  |  |
| 5) Claim(s) is/are allowed. 6) Claim(s) is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved by disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All   b) Some * c) None of:  1 Certified copies of the priority documents have been received in Application No  3 Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  Notice of References Cited (PTO-892)  2) Notice of Informal Patent Application (PTO-152)   |   |  |                         |              |              |  |  |  |  |
| 6  Claim(s) 1 and 3-7 is/are rejected.  7  Claim(s) is/are objected to.  8  Claim(s) are subject to restriction and/or election requirement.  Application Papers  9  The specification is objected to by the Examiner.  10  The drawing(s) filled on is/are: a  accepted or b  objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11  The proposed drawing correction filed on is: a  approved b  objected by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12  The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b   |   | ,  | m nom consideration.    |              |              |  |  |  |  |
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| 8   Claim(s) are subject to restriction and/or election requirement.  Application Papers  9   The specification is objected to by the Examiner.  10   The drawing(s) filed on is/are: a)   accepted or b)   objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11   The proposed drawing correction filed on is: a)   approved by disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12   The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13   Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a)   All   b)   Some * c)   None of:  1   Certified copies of the priority documents have been received.  2   Certified copies of the priority documents have been received in Application No  3   Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14)   Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 119(e) (to a provisional application).  a)   The translation of the foreign language provisional application has been received.  15)   Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1)   Notice of References Cited (PTO-892)  2)   Notice of Informal Patent Application (PTO-152)   |   |  |                         |              |              |  |  |  |  |
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| 10)  The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  5) Notice of Informal Patent Application (PTO-152)  | · · · · · · · · · · · · · · · · · · ·   |  |                         |              |              |  |  |  |  |
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| 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  1) Notice of Informal Patent Application (PTO-152)   |   | 1. Certified copies of the priority documents have been received.                  |                         |              |              |  |  |  |  |
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|  |   |  |                         |              |              |  |  |  |  |

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## **DETAILED ACTION**

## Claim Rejections 35 U.S.C. 103

- 1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omae et al. (USPN 5963283) in view of Hardt (USPN 5387901) and Matsumoto et al. (USPN 5694190).

Regarding claims 1 and 7, Omae teaches about a liquid crystal panel and projection display device for enlarging and projecting to a screen (176). Omae teaches images displayed on a small liquid crystal panel (177) are enlarged and projected using project lens (174). In connection to liquid crystal panels, Omae teaches an LCD layer with sides of substrate (11, 12) as shown in Fig 1 and further teaches specific electrode pattern on a circuit board, and electrode substrates in pixel display area. See column 1, lines 9-15, 20-23, column 2, lines 6-15, and column 4, lines 13-21, and Fig 21. However, Omae does not teach about a projection holder fixed on the circuit board for holding the display panel and positioning means for positioning the holder and projection lens support. Hardt on the other hand teaches lens members (48, 48b) inserted in their respective socket cavities (128, 130), the circuit board (102) supported behind the mounting socket structure (100) to position the upper LED device (46a). See col. 7, lines 36-49, Fig and 10.

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Therefore, it would have been obvious to one having skill in the art at the time of the invention was made to modify Omae's projection display device to adapt Hardt's configuration of light assembly structure as shown in Fig 2. One would have been motivated in view of the suggestion in Hardt that the socket structure (100), socket cavities (128, 130) and circuit board (102) are functionally equivalent to the desired projection holder, positioning means and circuit board respectively. The use of socket structure along with the circuit board helps function a display system with light emitting device.

Omae has been described above. However, Omae does not disclose a scenario where the first electrodes of the display panel and the second electrodes of the circuit board are electrically connected by way of a connector such that first electrodes are brought into contact with a connector. Matsumoto on the other hand teaches a connector (4) having a conductive contact (4a), and having a contact with the signal input electrode portion (1a)when the liquid crystal panel (1) and the circuit board (5) are connected together. See col. 4, lines 38-54 and Fig 1.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Omae's projection display device to include Matsumoto's electrode connections. One would have been motivated in view of the suggestion in Matsumoto that the input electrode, the connector along with the conductive contact area equivalently provide the desired configurations of the electrodes with a connector. The use of input electrode, connector and conductive contact area helps function LCD device as taught by Matsumoto.

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Regarding claims 3-4, See Hardt's Fig 10 (128, 130). Hardt also teaches lens portion (48) being outwardly receivable through lens opening (40).

Regarding claim 5, See Matsumoto's Fig 1.

Regarding claim 6, Omae teaches a liquid crystal panel (177) with respect to the formation of an optical images. Omae teaches the formation as a change in light scattering is converted to a change in brightness on the screen (176). Column 18, lines 44-55.

## Conclusion

2. The prior art made of record and not relied upon is considered to applicant's disclosure.

The following arts are cited for further reference.

U.S. Pat. No. 5,446,635 to Jehn

U.S. Pat. No. 5,283,802 to Hsiung

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3. Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Abbas Abdulselam whose telephone number is (703) 305-8591. The

examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richard Hjerpe can be reached at (703) 305-4709.

Any response to this actions should be mailed to:

Commissioner of patents and Trademarks

Washington, D.C. 20231

or faxed to

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington,

VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or preceding

should be directed to the Technology center 2600 Customer Service office whose telephone

number is (703) 306-0377.

Abbas Abdulselam

Examiner

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HICHARD HJERPE SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 2600